

Application No. 09/683,921

PATENT RESPONSE

REMARKS

Claims 1-46 are pending. Independent claims include Claims 1, 31-38, and 41-42, with all other claims respectfully depending therefrom.

As summarized in the following table, the Examiner rejected Claims 1-46 under 35 U.S.C. § 103(a) as being unpatentable over various combinations of various references, each of which Applicant respectfully traverses and requests the Examiner's withdrawal thereof:

Office Action Item Number	Claims	Bergmann	Clay	Bravenec	Addy	McGinty	McKee	Fotland	Sandor	Guest	Gottfried	Lo
2	1-3 5-7 17 22-23 38-42	X	X									
3	4	X	X	X								
4	8-9 11 31-33	X	X		X							
5	10 16	X	X			X						
6	12 15	X	X				X					
7	13	X	X				X	X				
8	14	X	X				X	X	X			
9	18-21 24 28 30	X	X							X		
10	25-27 29	X	X								X	
11	34-37	X	X							X		
12	43-46	X	X									X

As can be seen, the Examiner relied on U.S. Pat. No. 5,944,356 to Bergmann et al. ("Bergmann") and U.S. Pat. No. 4,869,946 to Clay ("Clay") for each of these rejections. Accordingly, Applicant respectfully asserts that all of the Examiner's rejections must stand or fall in conjunction with these two (2) primary references, which Applicant will now discuss.

A. Bergmann

Bergmann discloses a multilayer data carrier (e.g., an identity, credit, bank, or security card) having one or more transparent, thin layers containing additives that absorb the energy of a laser beam. *See, e.g., Col. 1, lines 6-7 and Col. 2, lines 27-29* ("The basic idea of the invention is to provide a layer containing at least one additive in the card structure of a multilayer data carrier..."). More specifically, Bergmann's multilayer data carrier contains one or more layers

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of lacquer that are sensitized for laser inscription. *See Col. 2 at lines 54-56 and Col. 3, line 59.*

In addition, according to Bergmann:

Along with conventional all-over application of the layers of lacquer one can now also sensitize partial areas of the card with layers of lacquer, whereby these layers can also be applied in the form of an image or pattern. The limits to the possibilities are determined only by the limits of printing technology. Several layers of lacquer can thus also be disposed one above the other or different lacquers combined with one other so that e.g. differently sensitized surface areas are realizable in different card areas...

...Since the layers of lacquer can be provided in almost any desired thinness unlike the plastic films hitherto used, however, the data can be inscribed with a much higher resolution. This manifests itself in particularly positive fashion in the incorporation of tilt images or parallax images since the information is 'tilted' in much smaller angle ranges, on the one hand, and the pieces of information incorporated at different angles can be separated from one [sic] other much more exactly.

Col. 2, line 64 through Col. 3, line 25. Accordingly, Bergmann provides user-related data 3 in an area of a tilt image in a lenticular screen field 8 at different angles on a multilayer data carrier 1 so that various user-related data 3 is "not recognizable simultaneously...but only at the particular angles at which inscription was performed," all according to the various layers of lacquer. *Col. 3, lines 50-52.* Thus, the different layers of lacquer can be used for different laser inscriptions, all of which remain viewable at different viewing angles according to the lenticular lens system. The only data that appears to be visible at all angles is alphanumeric data 2, which is physically burned into the card (i.e., discernable by physical touch) by a laser beam "so as to be recognizable to the viewer at any angles of view." *Id. at lines 45-46.* This alphanumeric data 2 is wholly separate from the other user-related data 3 and the lenticular screen field 8. These are the collective teachings of Bergmann—namely, different data can be viewed at different reflective angles by using various levels of lacquer with different optical absorption properties.

However, the Examiner does not use Bergmann for any of these teachings. Rather, the Examiner uses Bergmann as follows: Bergmann displays user-related data 3 in a lenticular screen field 8. *See FIG. 1.* The Examiner then asserts that various line segments in the alphanumeric symbols comprising this user-related data 3 contain i) horizontal line segments, such as a horizontal line component in the letter "A," and ii) vertical line segments, such as a vertical line component in the number "1." The Examiner then asserts that these various line segments create a lenticular angle between themselves and the lenticules of the lenticular lens

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system. Accordingly, the Examiner asserts that Bergmann forms a lenticular angle between the lenticules of a lenticular lens and the line segments in alphanumeric symbols that make up the user-related data 3.

However, the Examiner also acknowledges "Bergmann fails to teach that the image includes a bar code symbol." *Detailed Action, Page 3, Line 1 (September 22, 2004)*. Thus, the Examiner combines Bergmann with Clay and relies on Clay's depiction of a bar code through a lenticular lens to attempt to remedy this deficiency in Bergmann.

B. Clay

Clay places a bar code as a continuous image on a substrate so that the bar code remains continuously visible through the lenticules of a lenticular lens system. For example, according to Clay:

FIG. 3 also shows a bar code 23 which can be laid down as a continuous image on the substrate rather than as a series of narrow strips which are part of the lenticular system. Such an image is visible at all angles, whether the card is turned about its optically active (parallel to the lenticules) or optically inactive (perpendicular to the lenticules) axis.

Col. 3, line 67 through Col. 4, line 5. These are the collective teachings of Clay—namely, bar code data can be viewed simultaneously at all angles by laying it down as a continuous image on a substrate rather than as a part of a lenticular lens system.

In addition, and as the Examiner previously noted in conjunction with Clay:

...Clay does not specifically disclose that the [lenticular bar code] angle is formed...

...

...Clay fails to teach [sic] that the bars of the bar code symbol are skewed with respect to the lenticules of the lenticular lens and are not aligned with the lenticules of the lenticular lens. Clay also fails to teach a bar code offset angle between the bars of the bar code symbol and the lenticules of the lenticular lens.

...

...Clay fails to teach that the bars of the bar code symbol are perpendicular to the lenticules of the lenticular lens. Clay also fails to teach that at least one of the plurality of lenticules overlays more than one bar of the bar code symbol. Clay also fails to teach that the lenticules are not parallel to the spaced apart elements of the bar code and the lenticules are normal to the spaced apart elements of the bar code.

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Detailed Action, Page 3, line 16 through Page 4, line 18 (August 1, 2003). Notwithstanding the foregoing limitations, the Examiner relies on Clay for Clay's depiction of a bar code through a lenticular lens, which Clay makes continuously viewable through the lenticular lens system by placing it as a continuous image on a substrate, rather than as a part of the narrow strips that are a part of the typical lenticular lens system.

C. Combining Bergmann and Clay

The Examiner has attempted to combine Bergmann and Clay as follows: i) Bergmann forms a pseudo-lenticular angle between the lenticules of a lenticular lens and the line segments in various alphanumeric symbols that make up user-related data, and ii) Clay places a bar code as a continuous image on a substrate so that the bar code remains continuously visible through the lenticules of a lenticular lens system—or, stated more succinctly, Bergmann discloses a lenticular angle and Clay discloses a lenticular bar code. Therefore, according to the Examiner, Bergmann in combination with Clay renders obvious Applicant's lenticular bar code angle, which is formed by a line parallel to an axial direction of the lenticules and at least one of the bars of the bar code symbol diverging from a common point to define said angle, as described throughout the entirety of Applicant's specification and claims. For at least the following reasons, Applicant respectfully asserts the Examiner has mistakenly combined these references:

1. Bergmann and Clay Directly Conflict

"Where the teachings of two or more prior art references conflict, the examiner must weigh the power of each reference to suggest solutions to one of ordinary skill in the art, considering the degree to which one reference might accurately discredit another." *MPEP* § 2143.01.

Here, the teachings of Bergmann and Clay directly conflict with one another. More specifically, Bergmann data is specifically incorporated "at different angles so that they are not recognizable simultaneously...but only at the particular angles at which inscription was performed." *Bergmann, Col. 3, lines 49-52*. On the other hand, the Clay bar code is specifically "visible at all angles." *Clay, Col. 4, line 2*. Thus, insofar as data that is available only at "particular angles" cannot also be simultaneously visible at "all angles," Bergmann and Clay directly conflict with one another. Consequently, their combination is improper, and the Examiner should withdraw the rejection.

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2. Modifying Bergmann with Clay would Render Each Unsatisfactory for its Intended Purpose

"If [the] proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification." *MPEP* § 2143.01.

Here, the combination of Bergmann and Clay would render each unsatisfactory for its intended purposes. More specifically, Bergmann data is specifically incorporated "at different angles so that they are not recognizable simultaneously...but only at the particular angles at which inscription was performed." *Bergmann*, Col. 3, lines 49-52. On the other hand, the Clay bar code is specifically "visible at all angles." *Clay*, Col. 4, line 2. Thus, modifying Bergmann data to be visible at all angles—as required by Clay—would render Bergmann unsatisfactory for its intended purpose of making data available only at particular angles. And conversely, modifying Clay's bar code to only be visible at particular angles—as required by Bergmann—would render Clay unsatisfactory for its intended purpose of making data continuously available at all angles. Consequently, their combination is improper, and the Examiner should withdraw the rejection.

3. Combining Bergmann and Clay would Change their Principles of Operation

"If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious." *MPEP* § 2143.01.

Here, the combination of Bergmann and Clay would change the principle of operation of both. More specifically, Bergmann data is specifically incorporated "at different angles so that they are not recognizable simultaneously...but only at the particular angles at which inscription was performed." *Bergmann*, Col. 3, lines 49-52. On the other hand, the Clay bar code is specifically "visible at all angles." *Clay*, Col. 4, line 2. Thus, modifying Bergmann data to be visible at all angles—as required by Clay—would change the principle of operation of Bergmann. And conversely, modifying Clay's bar code to only be visible at particular angles—as required by Bergmann—would change the principle of operation of Clay. Consequently, their combination is improper, and the Examiner should withdraw the rejection.

4. Bergmann and Clay Teach Away from their Combination

"It is improper to combine references where the references teach away from their combination." *MPEP* § 2145 (X)(D)(2).

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Here, the teachings of Bergmann and Clay teach away from their combination. More specifically, Bergmann data is specifically incorporated "at different angles so that they are not recognizable simultaneously... but only at the particular angles at which inscription was performed." *Bergmann, Col. 3, lines 49-52*. On the other hand, the Clay bar code is specifically "visible at all angles." *Clay, Col. 4, line 2*. Thus, insofar as Bergmann teaches data that is available only at "particular angles" and Clay teaches data this is visible at "all angles," Bergmann and Clay teach away from their combination. Consequently, their combination is improper, and the Examiner should withdraw the rejection.

5. Combining Bergmann and Clay does not Suggest the Desirability of the Claimed Invention

According to MPEP § 2143.01:

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

MPEP § 2143.01. Although an express written motivation to combine references need not appear in the prior art references, there must be at least some suggestion to combine these references to arrive at the claimed invention. *See id*. The Examiner can find this motivation in either the references themselves or in the knowledge generally available to one of ordinary skill in the art. *See MPEP § 2143*.

Here, the Examiner cannot find sufficient motivation to combine Bergmann and Clay in either i) the references themselves or ii) the knowledge generally available to one of ordinary skill in the art. More specifically, Applicant respectfully asserts that when reading either Bergmann data or Clay bar codes, **significant distortion results**. Noting the existence of some sort of a pseudo-lenticular angle (Bergmann) in combination with placing a bar code as a continuous image on a substrate (Clay) does not solve this distortion problem. In fact, neither reference even addresses distortion problems, which are caused by aligning the lenticules of the lenticular lens system with the bars of the bar code symbol. In other words, the fact that various line segments in various alphanumeric symbols may run parallel or perpendicular to the lenticules of the lenticular lens system at a particular time or viewing angle (Bergmann) does not eliminate the distortion of the data that the line segments represent, particularly line segments that run parallel to the lenticules. In fact, noting that a couple of random line segments may

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occasionally run perpendicular to the lenticules *strains the credibility* of using Bergmann in this context. Likewise, continuously viewing a bar code (Clay) does not eliminate its distortion. For example, when viewed through a lenticular lens system, a bar code can be continuously visible and still remain distorted.

At a minimum, Applicant, on the one hand, and Bergmann in combination with Clay, on the other hand, *solve different problems*. Moreover, both Bergmann and Clay are *individually complete and functional* in and of themselves, so there is *no true motivation* for one skilled in the art to combine these references to attempt to arrive at Applicant's invention. Neither *contemplates the problem* of lenticular lens distortion when reading bar code images, and neither could therefore reasonably expect to achieve Applicant's *unexpected results* achieving the same. Applicant's disclosure specifically references this point. *See Paragraph 63 and FIG. 11.*

Moreover, the Examiner has made a *strained combination* of references that can only be supported through *improper hindsight reconstruction*. More specifically, according to the Examiner:

[I]t would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to integrate the teachings of Clay to the teachings of Bergmann in order to prevent the bar code from fraud or being tampered by protecting the bar code with a lenticular lens. Such modification maintains the bar width and size of the bar code in its original form, and subsequently does not provide wrong information to the reader.

Detailed Action, Page 3, Lines 9- 13 (September 22, 2004). However, the Examiner's assertion that integrating the teachings of Clay to the teachings of Bergmann "maintains the bar width and size of the bar code in its original form, and subsequently does not provide wrong information to the reader" is wholly unsupported by these references. Rather, Applicant respectfully maintains that Applicant's distortion control *cannot be logically inferred* from Bergmann and Clay without further documentary support from the Examiner, which Applicant hereby respectfully requests if the Examiner maintains this *improper combination of these two (2) references*. Accordingly, Applicant continues to maintain that when the bars of the bar code align with the lenticules, distortion results. In other words, Clay's laying the bar code on the substrate as a continuous image, the visibility of which is unaffected by the lenticular system, as opposed to a lenticular-compatible image comprised of discrete bands, does not eliminate distortion, particularly when the bars of the bar code align with the lenticules, regardless of whether they are continuously visible or not. And Bergmann's pseudo-lenticular angle between the lenticules of a lenticular

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lens and the line segments in alphanumeric symbols that make up user-related data cannot and do not make up for this deficiency.

In addition, insofar as data that is available only at particular angles cannot also be simultaneously visible at all angles, if Bergmann and Clay were combined as the Examiner had suggested, they would produce an *inoperative combination*.

In addition, Bergmann and Clay follow *mutually exclusive paths* (i.e., Bergmann data is available only at particular angles, while Clay's data is visible at all angles) to reach *different solutions* (i.e., Bergmann uses various lacquer levels with different optical absorption properties, while Clay places a bar code as a continuous image on a substrate).

For at least the foregoing reasons, combining Bergmann and Clay does not suggest the desirability of the claimed invention. Consequently, their combination is improper, and the Examiner should withdraw the rejection.

6. Even if Bergmann and Clay are Combined, they Fail to Meet Applicant's Claims

"To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." *MPEP § 2143.03*.

Here, the combination of Bergmann and Clay fails to teach or suggest all of Applicant's claim limitations. More specifically, Applicant has described that a line parallel to an axial direction of the lenticules and at least one of the bars of the bar code diverge from a common point to define a lenticular bar code angle. However, the Examiner has not shown how the combination of Bergmann and Clay would teach or suggest that a line parallel to an axial direction of the lenticules and at least one of the bars of the bar code diverge from a common point to define a lenticular bar code angle. Consequently, their combination is improper, and the Examiner should withdraw the rejection.

In accord with at least the foregoing arguments, Applicant respectfully asserts that i) Bergmann and Clay directly conflict, ii) modifying Bergmann with Clay would render each unsatisfactory for its intended purpose, iii) combining Bergmann and Clay would change their principles of operation, iv) Bergmann and Clay teach away from their combination, v) combining Bergmann and Clay does not suggest the desirability of the claimed invention, and vi) even if Bergmann and Clay are combined, they fail to meet Applicant's Claims. Accordingly, Applicant respectfully asserts the Examiner's combination of Bergmann and Clay is improper. Applicant also respectfully asserts, as previously indicated, that all of the Examiner's rejections

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must stand or fall in conjunction with these two (2) primary references, which Applicant respectfully asserts Applicant has now properly distinguished.

In addition, Applicant also respectfully acknowledges the other references the Examiner cited; however, Applicant respectfully requests and reserves the right to respond more specifically thereto, if necessary, following the Examiner's consideration of the foregoing. In addition, since Applicant respectfully asserts that all of Applicant's independent claims are non-obvious under 35 U.S.C. § 103(a), Applicant also respectfully asserts that all of Applicant's dependent claims respectfully depending therefrom are also non-obvious under 35 U.S.C. § 103(a); however, Applicant again respectfully requests and reserves the right to respond more specifically thereto, if necessary, following the Examiner's consideration of the foregoing.

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CONCLUSION

The Examiner has failed to i) show the existence of or ii) render obvious a bar code disposed beneath the lenticules of a lenticular lens system such that a lenticular bar code angle is formed between the lenticules of the lenticular lens system and the bars of the bar code symbol in order to eliminate distortion when reading the bar code. More specifically, Applicant describes and claims a lenticular bar code image in which the lenticules of the lenticular lens are oriented along an axial direction and the lenticular lens and image are in overlay relationship with one another such that a line parallel to the axial direction and at least one of the bars of the bar code diverge from a common point to define a lenticular bar code angle. Nothing in any of the cited references, either individually or in various combinations thereof, teaches or suggests Applicant's claimed invention.

Applicant earnestly believes this Response overcomes all of the Examiner's rejections. Thus, Applicant believes the Examiner cannot properly establish or maintain any proper rejections to any of Applicant's claims. Accordingly, Applicant respectfully requests that the Examiner withdraw all of the Examiner's rejections.

Applicant believes this Response should allow the Examiner to allow the above-referenced patent application to issue as a U.S. patent without further amendments to the specification or claims. Thus, Applicant respectfully submits that all pending claims are in condition for allowance, which Applicant requests, as well as notification to that effect. However, if any questions should arise, Applicant hereby encourages the Examiner to telephone the undersigned attorney.